



## Workshop on Phenotyping Mouse Models of Lung Disease September 22-27, 2019

### Sunday, September 22<sup>nd</sup>, 2019

*Highseas first floor*

- 4:30pm      Registration and reception
- 6:00pm      Dinner (Highseas dining room)
- 7:00pm      **Orientation and Introductions** (Highseas living room)  
Wayne Mitzner, Ph.D., John Hopkins Bloomberg School of Public Health  
Michael Borchers, Ph.D., University of Cincinnati  
Jennifer Corrigan, M.S., The Jackson Laboratory

### Monday, September 23<sup>rd</sup>, 2019: *The Mouse and How We Use It*

*8am – 1:30pm sessions will be held in the Highseas 3<sup>rd</sup> floor lecture room  
1:45pm – 5pm sessions will be held in the GRB Training Lab @ The Jackson Laboratory*

- 7:00am      Breakfast (Highseas dining room)
- 8:00am      **Welcome**  
Wayne Mitzner, Ph.D., John Hopkins Bloomberg School of Public Health
- 8:15am      **Mouse Models of Lung Disease**  
Wayne Mitzner, Ph.D., John Hopkins Bloomberg School of Public Health
- 9:15am      Break
- 9:30am      **Normal Mouse Cytology and the Role of Immune Cells in Mouse Models of Lung Disease**  
Michael Borchers, Ph.D., Univ of Cincinnati
- 10:30am     **Introduction to Mouse Ventilation Systems**  
Lennart K.A. Lundblad, Ph.D., Meakins-Christie Labs, McGill University

- 11:30am Lunch (Highseas dining room)
- 12:30pm **Mouse Husbandry, Breeding and Genetic Quality Control**  
Krista Geister, Ph.D., The Jackson Laboratory
- 1:30pm Transportation to GRB Training Lab
- 1:45pm **Hands-on Mouse Techniques: Handling, Restraint & IP Injection**  
Kristin Cough, B.S., The Jackson Laboratory
- 3:15pm **Sampling Techniques: Cardiac Puncture, Mandibular Blood Collection & Bone Marrow Collection**  
Michael Borchers, Ph.D., University of Cincinnati  
Jennifer Corrigan, M.S., The Jackson Laboratory  
Kristin Cough, B.S., The Jackson Laboratory  
Jeffrey Loube, B.S., John Hopkins Bloomberg School of Public Health
- 4:30pm **Blood Smears**  
Michael Borchers, Ph.D., University of Cincinnati
- 5:00pm Transportation to Highseas
- 6:00pm Dinner (Highseas dining room)
- 7:00pm **Participant Presentations** (Bring a 10 min PowerPoint presentation of your work.)

**Tuesday, September 24<sup>th</sup>, 2019: Assessment of Mouse Lung Function**

*8am – 11:15 am sessions will be held in the Highseas 3<sup>rd</sup> floor lecture room*

*11:30am – 5:30pm sessions will be held in the GRB Training Lab @ The Jackson Laboratory*

- 7:00am Breakfast (Highseas dining room)
- 8:00am **Foundations of Lung Function and Assessment with Forced Oscillation**  
Lennart K.A. Lundblad, Ph.D., Meakins-Christie Labs, McGill University
- 9:00am **Lung Volumes, Pressure-Volume Curves, and Lung Diffusing Capacity**  
Wayne Mitzner, Ph.D., John Hopkins Bloomberg School of Public Health
- 9:45am Break
- 10:00am **Mouse Lung Intubation**  
Wayne Mitzner, Ph.D., John Hopkins Bloomberg School of Public Health
- 10:15 am **Introduction to the Flexivent**

Annette Robichaud, Ph.D., Stephanie Rosenbaum, Msc., and Danielle Hopkins, Msc.,  
SCIREQ Scientific Respiratory Equipment Inc.

- 11:15am Transportation to GRB Training Lab
- 11:30am **Tracheostomy**  
Jeffrey Loube, B.S., John Hopkins Bloomberg School of Public Health  
Wayne Mitzner, Ph.D., John Hopkins Bloomberg School of Public Health
- 12:30pm Lunch (Roscoes)
- 1:30pm **Concurrent Rotating Labs**
- **Flexivent: Tracheostomy and Pressure Volume Curves** (½ of class, 2 hrs)  
Annette Robichaud, Ph.D., Stephanie Rosenbaum, Msc., and Danielle Hopkins, Msc., SCIREQ Scientific Respiratory Equipment Inc.  
Lennart K.A. Lundblad, Ph.D., Meakins-Christie Labs, McGill University
  - **Sampling Techniques Continued: Lavage & Cover Slipping** (1/2 of class, 2 hrs)  
Michael Borchers, Ph.D., Univ of Cincinnati
- 3:30pm **Rotate Concurrent Labs**
- 5:30pm Transportation to Highseas
- 6:00pm Dinner (Highseas dining room)
- 7:00pm **Participant Presentations** (Bring a 10 min PowerPoint presentation of your work.)

**Wednesday, September 25<sup>th</sup>, 2019: *Generating and Analyzing Pulmonary Mouse Models***

*8am – 11:45am sessions will be held in the Highseas 3<sup>rd</sup> floor lecture room*

*1pm – 5pm sessions will be held in the GRB Training Lab @ The Jackson Laboratory*

- 7:00am Breakfast (Highseas dining room)
- 8:00am **Introduction to the Light Microscope and Optimizing Image Acquisition**  
Douglas Taatjes, Ph.D., The University of Vermont
- 9:00am **Pathology of Mouse Models of Lung Disease**  
Cory Brayton, D.V.M., ACVP, John Hopkins University School of Medicine
- 10:00am Break
- 10:15am **Harvest & Fixation Techniques**  
Wayne Mitzner, Ph.D., John Hopkins Bloomberg School of Public Health
- 10:45am **Introduction to Morphometry/Stereology and Sampling as Applied to the Lung**  
Christian Mühlfeld, Ph.D., Hannover Medical School

- 11:45am Lunch (Highseas dining room)
- 12:45pm Transportation to GRB Training Lab
- 1:00pm **Concurrent Rotating Labs**
- **FlexiVent Dose Response Curves** (½ of class, 1.5 hrs)  
Annette Robichaud, Ph.D., Stephanie Rosenbaum, Msc., and Danielle Hopkins, Msc., SCIREQ Scientific Respiratory Equipment Inc.  
Lennart K.A. Lundblad, Ph.D., Meakins-Christie Labs, McGill University
  - **Intubation & Lung Volume Measurement** (¼ of class, 45 min then switch to Lung Harvest & Fixation)  
Wayne Mitzner, Ph.D., John Hopkins Bloomberg School of Public Health
  - **Lung Harvest & Fixation** (¼ of class, 45 min then switch to Intubation & Measuring Lung Volume)  
Christian Mühlfeld, Ph.D., Hannover Medical School
- 2:30pm **Rotate Concurrent Labs**
- 4:00pm **Slide Review** (Bring your questions and fixed slides for analysis)  
**Note: Do NOT bring fresh tissue to The Jackson Laboratory!**  
Cory Brayton, D.V.M., ACVP, John Hopkins University School of Medicine  
Douglas Taatjes, Ph.D., The University of Vermont
- 5:00m Transportation to Highseas
- 6:00pm Lobster Dinner (Highseas dining room)

### **Thursday, September 26<sup>th</sup>, 2019- Quantitative Lung Imaging**

*All of today's sessions will be held in the Highseas 3<sup>rd</sup> floor lecture room*

- 7:00am Breakfast (Highseas dining room)
- 8:00am **Practical Exercise in Lung Stereology I: Volume Estimation**  
Christian Mühlfeld, Ph.D., Hannover Medical School
- 9:15am **Practical Exercise in Lung Stereology II: Surface Area Estimation**  
Christian Mühlfeld, Ph.D., Hannover Medical School
- 10:45am Break
- 11:00am **Considerations for Image Presentation and Imaging Ethics**  
Douglas Taatjes, Ph.D., The University of Vermont
- 12:00pm **Humanized Mice and Patient Derived Xenografts (PDX)**  
Brian Soper, Ph.D., The Jackson Laboratory

1:00pm Lunch (Highseas dining room)

2:00pm Free time

6:00pm Dinner (Highseas dining room)

**Friday, September 27<sup>th</sup>, 2019**

Breakfast and departures (Room check-out is 9:00 A.M.)